

REMARKS

In the Office Action dated August 30, 2004, claims 1 and 14 stand rejected under 35 U.S.C. §112, first paragraph. Claims 1 and 14 also stand rejected under 35 U.S.C. §112, second paragraph. Lastly, claims 3 and 16 have been objected to as being dependent on rejected base claims but would be allowable if rewritten into independent form.

In response to the Office Action, Applicants have amended claims 1 and 14 which when considered with the remarks below are deemed to place the application in condition for allowance. Reconsideration of the application is respectfully requested.

Rejections Under 35 U.S.C. §112, First Paragraph

Claims 1 and 14 stand rejected for lack enablement. First, the Examiner contends that the specification does not enable the synthesis of crotonyl thiol esters where the characteristic use agent is terminated with a functional group other than an alcohol. The Examiner also contends that the specification does not enable the synthesis of crotonyl thiol esters where the characteristic use agent is a cyclic compound. Lastly, the Examiner contends that the specification does not enable attachment of the characteristic use agent to the terminal crotonyl moiety or the sorbyl methyl group.

In response, Applicants point out that the specification does not need to teach what is well known in the art. The synthesis of compounds within the scope of claims 1 and 14, as amended, are well within the ability of one skilled in the art following the teachings of the invention. To illustrate the knowledge of one skilled in the art, Applicants respectfully direct the Examiner's attention to U.S. Patent Nos.: 3,929,852 and 5,424,472, which are submitted with a Supplemental Information Disclosure Statement.

U.S. Patent No.: 3,929,852 (“the ‘852 patent”) is directed to a process of preparing α,β -unsaturated thioesters with straight chain, branched chain and cyclic mercaptans. While none of the compounds disclosed in the ‘852 patent are crotonyl or sorbyl thiol esters, the chemistry depicted is fully applicable to the synthesis of compounds in accordance with claims 1 and 14. The Examiner’s attention is respectfully directed to columns 4 and 5 which disclose that, in addition to chemical moieties terminated with a hydroxyl group, thiol-terminated moieties can also be utilized to synthesize α,β -unsaturated thioesters. In addition, as the Examiner will clearly note, the ‘852 patent discloses that the thiol- and hydroxyl-terminated moieties can be straight, branched and cyclic in structure.

The same can also be said regarding U.S. Patent No.: 5,424,472 (“the ‘472 patent”). The ‘472 patent is directed to a method of manufacturing (meth)acryloylthio compounds (i.e., α,β -unsaturated thioesters). Thus, while the ‘472 patent does not disclose crotonyl or sorbyl thiol esters, the reaction chemistry disclosed in the ‘472 patent is equally applicable to synthesizing compounds in accordance with claims 1 and 14.

Lastly, Applicants have amended claims 1 and 14 to point out that the bonding agent and characteristic use agent are covalently bounded through the sulfur atom. Support for this amendment is clearly found in claims 3 and 16. No new matter is being added by this amendment.

In view of the above, Applicants respectfully submit that claims 1 and 14, as amended, are enabled. First, claims 1 and 14 have been amended to specify how the characteristic use agent is coupled to the bonding agent. Second, the patents submitted for the Examiner’s consideration clearly show there is a multiplicity of reaction schemes for synthesizing α,β -unsaturated thioesters.

Rejection Under 35 U.S.C. §112, Second Paragraph

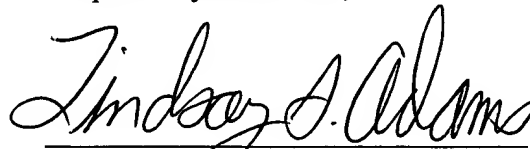
Claims 1 and 14 have been rejected as being vague and indefinite. The Examiner contends it is unclear how the characteristic use agent is coupled with the bonding agent.

In response, Applicants respectfully submit that the amendment of claims 1 and 14 clearly specify how the two components are coupled. Withdrawal of the rejection is respectfully requested.

In view of the above amendment and remarks, it is respectfully submitted that the present application is in condition for allowance. If the Examiner has any questions regarding the amendment submitted herewith, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number indicated below.

Applicants do not believe that any fees are due with this response other than the requisite fee for the Information Disclosure Statement. However, if any additional fees are due, please charge such sums to our Deposit Account 50-1145.

Respectfully submitted,

A handwritten signature in black ink, reading "Lindsay S. Adams". The signature is fluid and cursive, with the first name "Lindsay" being more prominent and the last name "Adams" following in a similar style. The signature is written over a horizontal line.

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